

IN THE CLAIMS

Kindly enter the following claims.

Claims 1-45 (canceled)

46. (currently amended) An isolated polynucleotide which:

- (a) encodes a polypeptide that has the properties of a methylarginase, which polynucleotide is selected from the group consisting of:
 - (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase ~~SEQ ID NO: 1, 3, 5, 7, 9 or 11;~~
 - (2) a fragment of a sequence defined in (1);
 - (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
 - (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or
- (b) is a sequence complementary to a polynucleotide defined in (a).

47. (previously presented) An isolated polynucleotide according to claim 46 which is a DNA sequence.

48. (currently amended) An isolated polynucleotide which encodes an amino acid sequence of SEQ ID NO: 1 or is a sequence complementary thereto ~~selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12.~~

49. (currently amended) An isolated polynucleotide which encodes an amino acid sequence of SEQ ID NO: 3 or is a sequence complementary thereto ~~polypeptide which has methylarginase activity and which comprises a sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12, a sequence substantially homologous thereto or a fragment of either said sequence.~~

50. (currently amended) A vector incorporating a polynucleotide which:

- (a) encodes a polypeptide that has the properties of a methylarginase, which polynucleotide is selected from the group consisting of:
 - (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase ~~SEQ ID NO: 1, 3, 5, 7, 9 or 11;~~
 - (2) a fragment of a sequence defined in (1);
 - (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
 - (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or
- (b) is a sequence complementary to a polynucleotide defined in (a).

51. (currently amended) A vector according to claim 50[[,]] which is an expression vector.

52. (currently amended) A cell harbouring
a polynucleotide which:

- (a) encodes a polypeptide that has the properties of a methylarginase, which polynucleotide is selected from the group consisting of:
 - (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase ~~SEQ ID NO: 1, 3, 5, 7, 9 or 11;~~
 - (2) a fragment of a sequence defined in (1);
 - (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
 - (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or
- (b) is a sequence complementary to a polynucleotide defined in (a),

~~a polypeptide which has methylarginase activity and which comprises a sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12, a sequence substantially homologous thereto or a fragment of either said sequence or a vector incorporating a said polynucleotide.~~

53. (previously presented) A process for the preparation of a polypeptide which has methylarginase activity, which process comprises the steps of cultivating a host cell harbouring an expression vector according to claim 51 under conditions to provide for expression of the said polypeptide, and recovering the expressed polypeptide.

Claims 54-63 (canceled)

64. (currently amended) A method for identifying a modulator of methylarginase activity ~~and/or expression~~, the method comprising the steps of:

- (i) contacting a test substance and a cell harbouring a polynucleotide which:
 - (a) encodes a polypeptide that has the properties of a methylarginase, which polynucleotide is selected from the group consisting of:
 - (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase SEQ ID NO: 1, 3, 5, 7, 9 or 11;
 - (2) a fragment of a sequence defined in (1);
 - (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
 - (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or
 - (b) is a sequence complementary to a polynucleotide defined in (a),
~~a polypeptide which has methylarginase activity and which comprises a sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12, a sequence substantially homologous thereto or a fragment of either said sequence, a vector incorporating a said polynucleotide or~~

- ~~a cell harbouring a said polynucleotide, polypeptide or vector~~
under conditions that would permit methylarginase activity in the absence of the test substance; and
- (ii) determining thereby whether or not the test said substance modulates the activity ~~and/or expression~~ of methylarginase to identify said modulator.

65. (previously presented) A method according to claim 64 further comprising the step of formulating a modulator identified in step (ii) with a pharmaceutically acceptable carrier or diluent.

66. (currently amended) A pharmaceutical composition comprising a pharmaceutically acceptable carrier and/or diluent and

- a polynucleotide which:
- (a) encodes a polypeptide that has the properties of a methylarginase, which polynucleotide is selected from the group consisting of:
- (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase SEQ ID NO: 1, 3, 5, 7, 9 or 11;
 - (2) a fragment of a sequence defined in (1);
 - (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
 - (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or
- (b) is a sequence complementary to a polynucleotide defined in (a),
~~a polypeptide which has methylarginase activity and which comprises a~~
~~sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12, a~~
~~sequence substantially homologous thereto or a fragment of either said sequence,~~
or an expression vector incorporating [[a]] said polynucleotide
~~or a modulator of methylarginase activity and/or expression.~~

67. (currently amended) A method of treating a human or animal suffering from a condition selected from the group consisting of hyperlipidaemia, renal failure, hypertension, restenosis after angioplasty, atherosclerosis, complications of heart failure, schizophrenia, multiple sclerosis and cancer, which method comprises the step of administering to the host a therapeutically effective amount of

~~a polypeptide which has methylarginase activity and which comprises a sequence selected from the group consisting of SEQ ID NO: 2, 4, 6, 8, 10 and 12, a sequence substantially homologous thereto or a fragment of either said sequence,~~

an expression vector incorporating a polynucleotide which:

(a) encodes a polypeptide that has the properties of a methylarginase~~methylarginase~~, which polynucleotide is selected from the group consisting of:

- (1) the coding sequence of a human dimethylarginine dimethylaminohydroxylase ~~SEQ ID NO: 1, 3, 5, 7, 9 or 11;~~
- (2) a fragment of a sequence defined in (1);
- (3) a sequence which hybridises selectively to the complement of a sequence defined in (1) or (2); and
- (4) a sequence that is degenerate as a result of the genetic code with respect to a sequence defined in (1), (2) or (3); or

(b) is a sequence complementary to a polynucleotide defined in (a)[[, or]]

~~a modulator which is an inhibitor of methylarginase activity and/or expression.~~

Claims 68-70 (canceled)

71. (new) An isolated polynucleotide according to claim 46, wherein the human dimethylarginine dimethylaminohydroxylase has the amino acid sequence of SEQ ID NO: 2 or 4.

72. (new) An isolated polynucleotide according to claim 46, wherein the human dimethylarginine dimethylaminohydroxylase is a dimethylarginine

dimethylaminohydroxylase I (DDAHI) or a dimethylarginine dimethylaminohydroxylase (DDAHII).

73. (new) A vector according to claim 50, wherein the human dimethylarginine dimethylaminohydroxylase has the amino acid sequence of SEQ ID NO: 2 or 4.

74. (new) A vector according to claim 50, wherein the human dimethylarginine dimethylaminohydroxylase is a dimethylarginine dimethylaminohydroxylase I (DDAHI) or a dimethylarginine dimethylaminohydroxylase (DDAHII).

75. (new) An expression vector according to claim 51, wherein the human dimethylarginine dimethylaminohydroxylase has the amino acid sequence of SEQ ID NO: 2 or 4.

76. (new) An expression vector according to claim 51, wherein the human dimethylarginine dimethylaminohydroxylase is a dimethylarginine dimethylaminohydroxylase I (DDAHI) or a dimethylarginine dimethylaminohydroxylase (DDAHII).

77. (new) A cell according to claim 52, wherein the human dimethylarginine dimethylaminohydroxylase has the amino acid sequence of SEQ ID NO: 2 or 4.

78. (new) A cell according to claim 52, wherein the human dimethylarginine dimethylaminohydroxylase is a dimethylarginine dimethylaminohydroxylase I (DDAHI) or a dimethylarginine dimethylaminohydroxylase (DDAHII).

79. (new) A method for identifying a modulator of methylarginase activity, the method comprising the steps of:

- (i) providing a polypeptide which has the methylarginase activity in accordance with the process of claim 53 and
 - (ii) contacting a test substance with said polypeptide under conditions that would permit methylarginase activity in the absence of the test substance
- thereby to identify said modulator by determining whether or not the test substance modulates the activity of methylarginase.

80. (new) A method according to claim 79 further comprising the step of formulating a modulator identified in step (ii) with a pharmaceutically acceptable carrier or diluent.

81. (new) A method according to claim 79, wherein the polypeptide has the amino acid sequence of SEQ ID NO: 2 or 4.

82. (new) A method according to claim 79, wherein the polypeptide is a dimethylarginine dimethylaminohydroxylase I (DDAHI) or a dimethylarginine dimethylaminohydroxylase (DDAHII).